WHAT IS CLAIMED:

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1. A method of reducing damage resulting from environmental electromagnetic effects on a non-metallic surface, said method comprising:

disposing a polymeric sheet material over the non-metallic surface; and

disposing a metal layer between the non-metallic surface and the polymeric sheet material.

2. A method according to claim 1, wherein the non-metallic surface is the surface of an ungrounded object.

3. A method according to claim 1, wherein the object is an aircraft or a marine vessel.

4. A method according to claim 1, wherein the polymeric sheet material comprises a polymer selected from the group consisting of polyolefins, polyimides, polyesters, polyacrylates, halopolymers, and combinations thereof.

5. A method according to claim 1, wherein the polymeric sheet material is a polymeric fabric.

6. A method according to claim 1, wherein the polymeric sheet material is a halopolymer fabric.

7. A method according to claim 1, wherein the polymeric sheet material is a fluoropolymer fabric.

8. A method according to claim 1, wherein said disposing comprises:

adhering the polymeric sheet material directly to the non-metallic surface.

9. A method according to claim 1, wherein the metal layer is a metal mesh or an expanded metal foil.

10. A method according to claim 1, wherein the metal layer is bonded to the polymeric sheet material and wherein said disposing a polymeric sheet material and said disposing a metal layer are carried out in a single step.

11. A method according to claim 10, wherein the polymeric sheet material is a halopolymer sheet material and wherein the metal layer is bonded to the polymeric sheet material by a method comprising:

substituting at least a portion of halogen atoms on the outermost surface of the halopolymer sheet material with hydrogen and oxygen or oxygen-containing groups to thus provide an oxyhalopolymer sheet material; and

contacting the oxyhalopolymer sheet material with a solution or gas comprising a metal for a period of time sufficient to facilitate bonding of the metal to the oxyhalopolymer sheet material.

12. A method according to claim 10, wherein the polymeric sheet material's surface comprises functional groups which will bind an electroless metallization catalyst and wherein the metal layer is bonded to the polymeric sheet material by a method comprising:

contacting the polymeric sheet material's surface's functional groups with an electroless metallization catalyst to obtain a catalytic surface; and

contacting the catalytic surface with an electroless metallization solution under conditions effective to metallize the polymeric sheet material's surface.

13. A method according to claim 10, wherein the metal layer is adhered directly to the non-metallic surface with an adhesive.

14. A method according to claim 1, wherein the polymeric sheet material is a first polymeric sheet material and wherein said method further comprises:

disposing a second polymeric sheet material over the first polymeric sheet material.

15. A method according to claim 14, wherein said method further comprises:

disposing a second metal layer between the first polymeric sheet material and the second polymeric sheet material.

16. A method according to claim 15, wherein said method further comprises:

disposing a third polymeric sheet material over the second polymeric sheet material; and

disposing a third metal layer between the second polymeric sheet material and the third polymeric sheet material.

17. A method according to claim 1, wherein the environmental electromagnetic effect is a lightning strike.

18. An object comprising:

a substrate having a non-metallic surface;

a halopolymer sheet material disposed over said substrate's non-metallic surface; and

a metal layer disposed between said halopolymer sheet material and said substrate's non-metallic surface.

19. An object according to claim 18, wherein said substrate is ungrounded.

20. An object according to claim 18, wherein said substrate is an aircraft or a marine vessel.

21. An object according to claim 18, wherein said halopolymer sheet material is a halopolymer fabric.

22. An object according to claim 18, wherein said halopolymer sheet material is a fluoropolymer fabric.

23. An object according to claim 18, wherein said metal layer is adhered directly to said substrate's non-metallic surface with an adhesive.

24. An object according to claim 18, wherein said metal layer is a metal mesh or an expanded metal foil.

25. An object according to claim 18, wherein said metal layer is adhered to said halopolymer sheet material.

26. An object according to claim 18, wherein said metal layer is bonded to said halopolymer sheet material.

27. An object according to claim 26, wherein said metal layer is bonded to said halopolymer sheet material by a method comprising:

substituting at least a portion of halogen atoms on said halopolymer sheet material's outermost surface with hydrogen and oxygen or oxygen-containing groups to thus provide an oxyhalopolymer sheet material; and

contacting the oxyhalopolymer sheet material with a solution or gas comprising a metal for a period of

time sufficient to facilitate bonding of the metal to the oxyhalopolymer sheet material.

28. An object according to claim 26, wherein said halopolymer sheet material's surface comprises functional groups which will bind an electroless metallization catalyst and wherein said metal layer is bonded to said halopolymer sheet material by a method comprising:

contacting said halopolymer sheet material's surface's functional groups with an electroless metallization catalyst to obtain a catalytic surface; and

contacting the catalytic surface with an electroless metallization solution under conditions effective to metallize said halopolymer sheet material's surface.

29. An object according to claim 26, wherein said metal layer is adhered directly to said substrate's non-metallic surface with an adhesive.

30. An object according to claim 26, wherein said halopolymer sheet material is a halopolymer fabric.

31. An object according to claim 26, wherein said halopolymer sheet material is a fluoropolymer fabric.

32. An object according to claim 18 further comprising:

a polymeric sheet material disposed over said halopolymer sheet material.

33. An object according to claim 32 further comprising:

a second metal layer disposed between said halopolymer sheet material and said polymeric sheet material.

34. An object according to claim 33, wherein said polymeric sheet material is a first polymeric sheet material and wherein said object further comprises:

a second polymeric sheet material disposed over said first polymeric sheet material; and

a third metal layer disposed between said first polymeric sheet material and said second polymeric sheet material.

35. A laminate comprising:

a metal layer having a first surface and a second surface;

a halopolymer sheet material bonded or adhered to the first surface of said metal layer; and

an adhesive disposed on the second surface of said metal layer.

36. A laminate according to claim 35, wherein said halopolymer sheet material is a fluoropolymer sheet material.

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37. A laminate according to claim 35, wherein said halopolymer sheet material is a halopolymer fabric.

38. A laminate according to claim 35, wherein said halopolymer sheet material is a fluoropolymer fabric.

39. A laminate according to claim 35, wherein said metal layer's first surface is bonded to said halopolymer sheet material.

40. A laminate according to claim 39, wherein said metal layer's first surface is bonded to said halopolymer sheet material by a method comprising:

substituting at least a portion of halogen atoms on said halopolymer sheet material's outermost surface with hydrogen and oxygen or oxygen-containing groups to thus provide an oxyhalopolymer sheet material; and

contacting the oxyhalopolymer sheet material with a solution or gas comprising a metal for a period of time sufficient to facilitate bonding of the metal to the oxyhalopolymer sheet material.

41. A laminate according to claim 39, wherein said halopolymer sheet material's surface comprises functional groups which will bind an electroless metallization catalyst and wherein said metal layer's first surface is bonded to said halopolymer sheet material by a method comprising:

contacting said halopolymer sheet material's surface's functional groups with an electroless metallization catalyst to obtain a catalytic surface; and

contacting the catalytic surface with an electroless metallization solution under conditions effective to metallize said halopolymer sheet material's surface.

42. A laminate comprising:

a halopolymer fabric having a first surface and a second surface;

a metal layer bonded or adhered to the first surface of said halopolymer fabric; and

an adhesive disposed on the second surface of said halopolymer fabric.

43. A laminate according to claim 42, wherein said halopolymer fabric is a fluoropolymer fabric.

44. A laminate according to claim 42, wherein said metal layer bonded to the first surface of said halopolymer fabric.